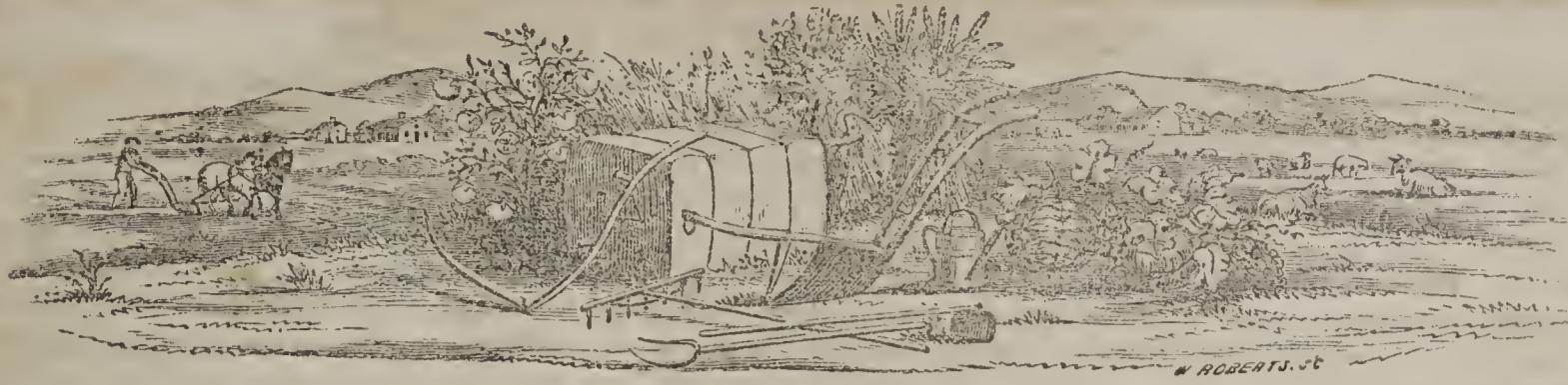


Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.



W. ROBERTS, ST.

FARMER AND PLANTER.

DEVOTED TO AGRICULTURE, HORTICULTURE, MECHANICS, DOMESTIC AND RURAL ECONOMY.

VOL. III.

PENDLETON, S. C., OCTOBER, 1852.

No. 10.

The Farmer and Planter

Is published monthly at Pendleton, S. C.,
BY GEO. SEABORN & J. J. GILMAN,
Editors and Proprietors.

TERMS.

1 copy, one year (<i>invariably in advance</i>), \$1
6 copies one year " " " 5
25 copies. " " " " 20
100 copies. " " " " 75

All letters, except communications for the Farmer and Planter, must be POST PAID to insure attention.

Manures.—No. 6.

Their Uses. History. Modes of Preparation. Comparative Value. Rationale of their Causes of Action. Etc. Etc.

BY PROF. J. J. MAPES.

Farm Yard Manures Continued—In our last number we spoke of the two systems of using manures, some preferring to use them long or fresh, while others insisted upon their superiority when completely decomposed by fermentation.

Both these extremes are fallacious, and for most crops a middle course is preferable. Fresh dung will certainly go much farther, but it fills the ground with weeds from the presence of their undecomposed seeds. Over-fermented dung will have lost much in quantity besides the loss of its ammoniacal salts or a large portion of them, and therefore a middle course is best. That state known as *short*, will secure the destruction of all seeds, while less of its volatile properties will have been lost than if the fermentation had been carried farther.

Such manures when placed in the soil, continue to give off gases until their entire decomposition, but if they are thoroughly mixed with the soil, and to a sufficient depth, these gases will be received and retained by the superincumbent soil until taken from it by the requirements of plants. This power to

retain gases in soils depends mainly upon its carbonaceous character, and its perfect pulverization, and an old garden containing much carbonaceous matter (charcoal of decayed plants) will hold manures longer than new and less pulverulent soils. Soils are said to be in good heart when in this condition, and one of the principal reasons why plaster of Paris or charcoal dust is found to be so beneficial, is that they in part give this property to soils.

Our own opinion as to the profitable way of using farm-yard manure, (if used without composting,) is to destroy weed seeds and grubs by moderate doses of salts, and if to be used on clayey or over tenacious land, to spread the manure *when fresh and long* in the fall, ridging the land afterwards, on the back furrowing system; and thus each ridge will contain a part of the manure at its bottom and centre. During winter the manure will be, *come short*, from the low temperature, the escape of gases from the manures will be slight, and those which do escape will be retained by the loosened earth in the ridges. The shape of the surface of the ground will prevent the rains from washing the manures, while the frequent freezings and thawings of winter will render these ridges more pulverulent than twenty plowings could possibly make them. We would also recommend that the furrows between the ridges should be disintegrated in the fall, by running the sub-soil plow to full depth in them. Thus during winter the ammonia and carbonic acid contained in the snow and rains, will be rendering the loosened sub-soil arable.

Clayey, or tenacious soils, so prepared in the fall, will be earlier in the spring than even more sandy soils, with equally good exposures which have been

left flat.

In the spring cross plow these ridges, and our word for it, the manure will be not only well intermixed, but will have been busy all winter in preparing by its gases an improved soil, instead of wasting its better constituents in the barnyard or muck heap.

The hard pan soils of New Jersey are particularly benefitted by such treatment.

For light sandy soils we should not use the ridging system for winter, as they require to be rendered more tenacious, and this system would have a contrary effect.

In the preparation of manures the truth that "putrefaction cannot go on without the presence of moisture; where water is entirely absent there can be no putrefaction; and hence many farmers pump the drainage of their barn-yards over their dung-heaps," should not be forgotten.

Some notion may be formed of the loss arising from the exposure of manures to the sun by a simple experiment.

Take the covering off from two demijohns; fill one of them half full of manure, and expose it to the sun; place the other demi-john in a running spring, shaded, and connect the mouths of the two demi-johns by a tube fitting them closely. In a few days, and indeed in a few hours, the cold demi-john will contain the aqueous portions of the dung in the fluid form, and if applied to soil, will produce a result fully equal to any that can be obtained from the residuum left in the other demi-john. With this fact before us, is it not stupid to omit having some material to take the place of the demi-john in the running spring, and to save what surely must be lost by weeks

and sometimes months exposure in an open yard?

We have already detailed what might be used for this purpose, and if we induce our readers to save what is now wasted of fertilizing materials, we shall benefit them more than by the present of an extra ten acres to each of their farms.

Every farmer believes that the management of farm-yard manures is very simple, and therefore he merely fences in a place for cattle, and suffers the manure to accumulate or waste, both of which processes are going on. Generally the different kinds of manures are accumulated in different places, and, in consequence, the horse manure and some other kinds, for want of admixture, become *fire fanged*, (over-heated) producing a white or grey ash, and thus wasting 75 per cent of their value.

The manure produced from fattening cattle, is much richer than that produced by working cattle, and as part of their food is continually spilled or lost, the manure is still farther enriched. Some farmers let in the hogs to eat up this wastage, and argue that by the manure being *rooted* (turned over) by the industrious hogs, that its quality is improved by this continual admixture. But these farmers should not forget that the loss by evaporation arising from this *rooting* of the hogs, is more than equivalent to any gain arising from this labor.

If the hogs must root, let them do so in their pen, and supply them with peat turf, old sods, weeds, &c. &c. Such ingredients will absorb and save their manure, while their ruthless rootings will disintegrate and render pulverulent these cheap materials.

Mix all kinds of manures arising from animals together, and they will not only give better results than any one separately used, but will be less likely to *fire fung*. When this mixture is too rich to decompose without fire fanging, use some cheap divisor, and the absorbent property of the divisor will prevent the loss of ammonia.

It is true that the dung of some animals produces much better results than that of others, but if each was used on a separate acre, and similar quantities thoroughly mixed together should be used on the same amount of land, it would be found that with most crops the expense of composting would be more than paid for by increased results—the exceptions are so few, that they go to establish the general rule.

One of these exceptions is the use of hog manure for turnips. When hogs are fed on cooked feed, and no vegetable matter used in the pen, but in its place charcoal dust, well decomposed, and dry peat or meadow muck, so that the result will become *powdery* when dried, its effects on turnips are equal to bone dust, and the addition of coal ashes renders it more valuable for general top-dressings as compared with its cost, than most other manures.

The reasons why the different kinds of manures when mixed together do not heat as much as some of them separately, will be readily understood from the following facts.

A heap of common farm-yard dung when in neat, will average (when the temperature of the surrounding atmosphere is 40°..... 70 degrees.

While that of a mixture of lime, dung and earth will

be..... 55 "

Swine and fouls dung..... 87 "

A full account of the above experiment will be found in *The Farmers Magazine*, vol. iv. p. 160.

We copy the following experiments from our text book. "Johnsch on Manures," and our readers will readily see how great are the differences arising from the use of different kinds of manures separately.

The subjoined table contains the result of the experiments made with three different manures on the growth of potatoes, by Mr. Oliver, of Midlothian—the cow and horse dung were recently made. The potatoes were of the description called *Pinkeyes*, and forty loads per acre of about 18 cwt. each, was employed of each manure.—*Ency. Metrop.* vol. i. p. 61.

That our readers may make their own calculation, we give the Scottish measure used in the table.

4 lippies=1 peck,

4 pecks=1 furlot,

4 furlots=1 boll=4 bushels.

Distance between rows.	Kindsof manures.	B. F. P. L	Produce per acre.	Value per boll.	Costofproduction.			Price of manure per load.
					£	s.	d.	
12 {	Cow,	42 0 0 0	8	16 16 0	25	8	6	4 0
	Horse,	47 0 0 0	8	18 17 6	23	8	0	3 0
	Street,	42 0 0 0	8	16 16 0	24	8	0	3 6
18 {	Cow,	60 0 0 0	8	24 0 0	24	8	0	4 0
	Horse,	51 0 0 0	8	23 0 0	23	8	0	3 0
	Street,	45 0 0 0	8	10 0 0	18	0	0	3 6
24 {	Cow,	60 1 0 0	8	24 2 0	22	0	0	3 0
	Horse,	61 0 3 0	8	24 9 0	24	0	0	4 0
	Street,	39 0 0 0	8	15 12 0	23	0	0	3 6
30 {	Cow,	66 2 2 0	8	26 13 0	23	13	0	4 0
	Horse,	66 2 2 0	8	26 13 6	21	13	0	3 0
	Street,	46 3 2 0	8	18 15 0	22	13	0	3 6
36 {	Cow,	63 0 3 0	8	25 5 6	23	10	0	4 0
	Horse,	67 2 2 1	8	27 0 7½	21	10	0	3 0
	Street,	46 0 0 0	8	18 16 0	22	10	0	3 6

Our readers will readily perceive, that even the distance between the rows in this experiment has made all the difference between a paying and a losing business, and in our article on potatoes, under heading *The Kitchen Garden*, we shall analyze this fact.—*Working Farmer*.

[To be Continued.]

One hour lost in the morning by laying in bed will put back all the business of the day.

One hour gained by rising early is worth one month of labor in a year.

One hole in the fence will cost ten times as much as it will to fix it at once.

One diseased sheep will spoil a flock.

One unruly animal will learn all others in company bad tricks, and the Bible says, "One sinner destroys much good."

One drunkard will keep a family poor, and make them miserable.

One wife that is always telling how fine her neighbors dress, and how little she can get, will look pleasanter if she talks about something else.

Poisonous Qualities of the Potato Plant.

The potato, (*one of the solanums,*) is exempted from the noxious qualities of its congeners, and DeCandole gives as a reason that it is the only one of its tribe which produces tubers on the roots; and these, from their structure and mode of growth, receive no portion, or at least not so much as to be injurious, of the poisonous ingredients.. These, however, exist in other parts of the plant, and were we eating the fruit, properly so called, or the leaves, we should find that they partook of the general properties of the nightshades.

The extract of the leaves of the common potato is a powerful narcotic, ranking between belladonna and hemlock.

Having been so long familiar with the potato in a cultivated state, it is interesting to be acquainted with its appearance in its native localities, and unaltered condition, the more especially as recent events have given us some reason to fear that we may again have to recruit our present varieties by having recourse to the original stock.

The wild potato, says Mr. Darwin, grows on these Islands, (Chonos Archipelago.) in great abundance, on the sandy, shelly soil, near the sea beach. The tallest plant was four feet in height. The tubers were generally small, but I found one of an oval shape, two inches in diameter. They resembled in every respect, and had the same smell as English potatoes; but when boiled they shrunk much and were watery and insipid, without any bitter taste. They are undoubtedly here indigenous; they grow as far south, according to Mr. Low, as lat. 59 deg., and are called *acuinas* by the wild Indians of that part. The Chilotan Indians have a different name for them. Prof. Henslow who has examined the dried specimens which I brought home, says that they are the same as those described by Mr. Sabine, from Valparaiso, but that they form a variety which, by some botanists has been considered as specifically distinct.

It is remarkable, that the same plant should be found on the sterile mountains of Central Chili, where a drop of rain does not fall for more than six months, and within the damp forests of these Southern Islands.

The potato is said by the Rev. James Duncan, (from whose article we have collated the above) to give out a vivid light, sometimes when in a state of putrefaction. Doctor Linley mentions an instance in which an officer on guard at

Strasburg, thought that the barrack s were on fire in consequence of the light thus emitted from a cellar full of these potatoes.—*Working Farmer.*

To Make various Soaps.

SOAP A LA ROSE.—This is made of the following ingredients:—30 pounds of olive oil soap; 20 of good tallow soap. Toilet soaps must be reduced to thin shavings, by means of a plane, with its under face turned up, so that the bars may be slipped along it; these shavings must be put into an untinned copper pan, which is surrounded by a water bath, or steam. If the soap be old and hard, 5 pounds of water must be added to them; but it is preferable to take fresh made soaps, which will melt without addition, as soap some time kept does not readily form a homogeneous paste. The fusion is commonly completed in an hour, or thereby, the heat being applied at 312 deg. Far., to accelerate the process, and prevent the dissolution of the constituent water of the soap. For this purpose the interior pan may be covered. Whenever the mass is sufficiently liquefied, 1½ ounces of finely ground vermillion are to be mixed, after which the heat may be taken off the pan; when the following perfumes may be added with due trituration:—3 ounces of essence of rose, 1 ditto of cloves, 1 ditto cinnamon, 2½ ditto bergamot.

TRANSPARENT SOAPS.—These soaps were for a long time manufactured only in England, where the process was kept a profound secret. They are now made everywhere. Equal parts of tallow soap made perfectly dry, and spirits of wine are to be put into a copper still, which is plunged into a water bath, and furnished with its capital and refrigeratory. The heat applied to effect the solution should be as light as possible, to avoid evaporating too much of the alcohol. The solution being effected, must be suffered to settle; and after a few hours' repose, the clear supernatant liquid is drawn off into tin frames, of the form desired for the cakes of soap. These bars do not acquire their proper degree of transparency till after a few weeks' exposure to dry air. They are now planed, and subjected to the proper mechanical treatment for making cakes of any form. The soap is colored with strong alcoholic solution of red for the rose tint, and of tumeric for the deep yellow. Transparent soaps however pleasing to the eye, are always of different quality: they are never so de-

tergent as ordinary soaps, and they eventually acquire a disagreeable smell.

WINDSOR SOAP.—Take common hard curd soap 56 lbs., oil of caraway 1½ lbs., tinetur of musk 12 ounces, English oil of lavender 1 ounce, and oil of majoram 4 drams.

STARKEY'S SOAP.—Rub together in a sub-carbonate of potash with oil of turpentine.

SOAP DU BOUQUET.—20 pounds of good tallow soap; 4 pounds of bergamot; oil of cloves, sassafras, and thyme, 1 ounce each; neryli, ½ ounce. The color is given with 7 lbs. of yellow ochre.

CINNAMON SOAP.—30 pounds of good tallow soap; 20 pounds palm oil soap. Perfumes: 7½ ounces of essence of cinnamon; 1¼ ditto sassafras; 1¼ ditto bergamot. Color: 1 pound of yellow ochre.

ORANGE FLOWER SOAP.—30 pounds of good tallow soap; 20 pounds of palm oil soap. Perfumes—7½ ounces essence of Portugal, 7½ ditto amber. Color—9½ ounces of, consisting of 8½ of a yellow-green pigment, and 1½ of red lead.

MUSK SOAP.—39 pounds of good tallow soap; 20 ditto palm oil soap. Perfumes—powder of cloves, of pale rose, gilliflower, each 4½ ounces; essence of bergamot, and essence of musk, each 3½ ounces. Color—4 ounces of brown ochre or Spanish brown.

BITTER ALMOND SOAP.—Is made by compounding with 50 pounds of the best white soap, 10 ounces of the essence of bitter almonds.

Good Farming Implements.

Every farmer should not only provide a complete set of farming implements; but that set should be of the most improved construction, and the best quality. It is wretched economy to place awkward, unwieldly tools in the hands of your laborers, when light, convenient, and equally durable ones may be had for the same price. But admitting the price of the convenient implement to be double that of the inconvenient one, the prudent farmer will gladly pay the difference. He therefore, not only spares the workmen, but in the end secures more labor. With what care should the farmer select his plows. How earnestly endeavor to procure those of the lightest draught, and easiest management. The comfort of his horses demand this, and the extra amount of time and care consumed in the selection, will be more than repaid by the good condition of his horses or oxen, and the superior manner in which his work is done.

Many farmers are in the habit of purchasing inferior implements for their boys to use. This again, is miserable policy, and no prudent farmer will ever be guilty of it. If men cannot perform work with bad implements, how much less inexperienced boys. Give the boys tools of the best kind, and where practicable let them be adapted in size to their strength and capacity for handling them.

Every farmer should provide himself with a complete set of Horticultural implements, and these too, should be of the most improved kinds. One great reason why gardens are so wretchedly cultivated,—why weeds are permitted to out-grow and smother valuable plants—why fruit trees become barren and decay, is, the want of a good set of Horticultural implements, with which to guard against these evils. How frequently does the farmer in a leisure hour, observe the wants of a favorite tree—that it needs pruning—that his hedge needs trimming—that a favorite fruit tree should be budded, or a hundred other things which should be attended to, but are not, because the suitable tools are not within reach.

Every farm should boast a tool house so arranged, that every implement should have its proper place assigned it, and a fixed principle with the master should be to see and require everything to be in its proper place as soon as the workmen are done with it. A systematic arrangement of this kind, fully carried out, would in a short time become a fixed habit, and the advantages of it appreciated only by a comparison between the condition of the farm where good implements are kept carefully preserved, and one where they are never found.—*Pennsylvania Farm Journal.*

Tempering, Hardening, and Softening Metals.

USED IN THE MECHANICAL AND USEFUL ARTS.

(Continued from page 133.)

The composition used by an experienced saw maker is two pounds of suet and a quarter of a pound of beeswax to every gallon of whale oil; these are boiled together, and will serve for thin works and most kinds of steel. The addition of black resin, to the extent of about one pound to the gallon, makes it serve for thicker pieces and for those it refused to harden before; but the resin should be added with judgement, or the works will become too hard and brittle. The composition is useless when it has

been constantly employed for about a month; the period depends, however, on the extent to which it is used, and the trough should be thoroughly cleaned before the new mixture is placed in it.

The following is recommended by an experienced workman: "Twenty gallons of spermaceti oil; twenty pounds of beef suet rendered, one gallon of neat's foot oil, one pound of pitch, three pounds of black resin. These two last articles must be previously melted together, and then added to the other ingredients; when the whole must be heated in a proper iron vessel, with a close cover fitted to it, until the moisture is entirely evaporated, and the composition will take fire on a flaming body being presented to its surface, but which must be instantly extinguished again by putting on the cover of the vessel."

The above ingredients lose their hardening property after a few weeks' constant use. The saws are heated in long furnaces, and then immersed horizontally and edgeways in a long trough containing the composition; two troughs are commonly used, the one until it gets too warm, then the other for a period and so on alternately. Part of the composition is wiped off the saws with a piece of leather, when they are removed from the trough, and they are heated one by one over a clear coke fire, until the grease inflames; this is called "*blazing off.*" When the saws are wanted to be rather hard, but little of the grease is burned off; when milder, a larger portion, and for a spring temper the whole is allowed to burn away. When the work is thick, or irregularly thick and thin, as in some springs, a second and third dose is burned off, to insure equality of temper in all parts alike.

Gun-lock springs are sometimes literally fried in oil for a considerable time over a fire in an iron tray; the thick parts are then sure to be sufficiently reduced, and the thin parts do not become more softened from the continuance of the blazing heat.

Springs and saws appear to lose their elasticity, after hardening and tempering, from the reduction and friction they undergo in grinding and polishing. Towards the conclusion of the manufacture, the elasticity of the saw is restored principally by hammering, and partly by heating it over a clear coke fire, to a straw color; the tint is removed by very diluted muriatic acid, after which the saws are well washed in plain water and then dried.

Watch-springs are hammered out of round steel wire, of suitable diameter, until they fill the gauge for width, which at the same time insures equality of thickness; the holes are punched in their extremities, and they are trimmed on the edge with a smooth file; the springs are then tied up with a binding wire, in a loose open coil, and heated over a charcoal fire upon a perforated revolving plate; they are hardened in oil, and blazed off.

The spring is now distended in a long metal frame, similar to that used for a saw-blade, and ground and polished with emery and oil, between lead blocks; by this time its elasticity appears quite lost, and it may be bent in any direction; its elasticity is however entirely restored by a subsequent hammering on a very bright anvil, which "*puts the nature into the spring.*"

The coloring is done over a flat plate of iron, or hood, under which a little spirit lamp is kept burning; the spring is continually drawn backwards and forwards, about two or three inches at a time, until it assumes the orange or deep blue tint throughout, according to the taste of the purchaser; by many the coloring is considered to be a matter of ornament, and not essential. The last process is to coil the spring into the spiral form, that it may enter the barrel in which it is to be contained; this is done by a tool with a small axis and winch-handle, and does not require heat.

The balance-springs of marine chronometers, which are in the form of a screw, are wound into the square thread of a screw of the appropriate diameter and coarseness; the two ends of the spring are retained by side-screws, and the whole is carefully enveloped in platinum foil, and tightly bound with wire. The mass is next heated in a piece of gun-barrel closed at one end, and plunged into oil, which hardens the spring almost without changing its color, owing to the exclusion of the air by the close platinum covering, which is now removed, and the spring is let down to the blue, before removal from the screwed block.

The balance or hair springs of common watches are frequently left soft; those of the best watches are hardened in the coil upon a plain cylinder, and are then curled into the spiral form between the edge of a blunt knife and the thumb, the same as in curling up a narrow ribbon of paper, or the filaments of an ostrich feather.

Mr. Dent says that 3200 balance-springs weigh only one ounce; but springs also include the heaviest examples of hardened steel works uncombined with iron: for example, of Mr. Adams' patent bow-springs for all kinds of vehicles, some intended for railway use, measure 3½ feet long, and weigh fifty pounds each piece; two of these are used in combination: other single ones are six feet long and weigh seventy pounds.

In hardening them they are heated by being drawn backwards and forwards through an ordinary forge-fire, built hollow, and they are immersed in a trough of plain water; in tempering them they are heated until the black-red is just visible at night; by daylight the heat is detected by its making a piece of wood sparkle when rubbed on the spring, which is then allowed to cool in the air. The metal is 9-16ths of an inch thick, and Mr. Adams considers 5-8ths the limit to which steel will harden properly—that is, sufficiently alike to serve as a spring: he tests their elasticity far beyond their intended range.

Great diversity of opinion exists respecting the cause of elasticity in springs. By some it is referred to different states of electricity; by others, the elasticity is considered to reside in the thin, blue, oxidized surface, the removal of which is thought to destroy the elasticity, much in the same manner that the elasticity of a cane is greatly lost by stripping off its silicious rind. The elasticity of a thick spring is certainly much impaired by grinding off a small quantity of its exterior metal, which is harder than the inner portion; and perhaps thin springs sustain in polishing a proportional loss, which is to them equally fatal.

It has been found experimentally that the bare removal of the blue tint from a pendulum spring, by its immersion in weak acid, caused the chronometer to lose nearly one minute in each hour; a second and equal immersion scarcely caused any further loss. It is also stated as a well known fact, that such springs get stronger, in a minute degree, during the first two or three years they are in use, from some atmospheric change; when the springs are coated with gold by the electrotype process, no such change is observable, and the covering, although perfect, may be so thin as not to compensate for the loss of the blue oxidized surface.

One of the most serious evils in hard-

ening steel, especially in thick blocks, or those which are unequally thick and thin, is their liability to crack, from the sudden transition; and in reference to hardening razors, a case in point, Mr. Stodart mentions it as the observation and practice of one of his workmen, "that the charcoal fire should be made up with the shavings of leather;" and upon being asked what good he supposed the leather could do, this workman replied, "that he could take upon him to say that he had never had a razor to crack since he had used this method though it was a frequent occurrence before.

When brittle substances crack in cooling, it always happens from the outside contracting and becoming too small to contain the interior parts. But it is known that hard steel occupies more space than when soft; and it may be inferred that the nearer the steel approaches to the state of iron, the less will be this increase of dimensions. If, then, we suppose a razor or any other piece of steel to be heated in an open fire with a current of air passing through it, the external part will, by the loss of carbon, become less steely than before; and when the whole piece comes to be hardened, the inside will be too large for the external part, which will probably crack. But if the piece of steel be wrapped up in the cementing mixture, or if the fire itself contain animal coal, and is put together so as to operate in the manner of that mixture, the external part, instead of being degraded by this heat, will be more carbonated than the internal part, in consequence of which it will be so far from splitting or bursting during its cooling, that it will be acted upon in a contrary direction, tending to render it more dense and solid.

The cracking which so often occurs on the immersion of steel articles in water, does not appear to arise so much from any decarbonization of the surface merely, as from the sudden condensation and contraction of a superficial portion of the metal, while the mass inside remains swelled with heat, and probably expands for a moment on the outside coming in contact with the water.

The file-makers, to save their work from clinking, or cracking partly through in hardening, draw the files through yeast, beer grounds, or any sticky material, and then through a mixture of common salt and animal hoof roasted and pounded. This is corroborative of

the above, as in the like manner it supplies a little carbon to the outside, and also renders the steel somewhat harder and less disposed to crack; the composition also renders the more important service of protecting the fine points of the teeth from being injured by the fire.

An analogous method is now practised in hardening patent axletrees which are of wrought iron, with two pieces of steel welded into the lower side where they rest upon the wheels and sustain the load. The work is heated in an open forge-fire, quite in the ordinary way, and when it is removed, a mixture, principally the prusiate of potash, is laid upon the steel; the axletree is then immediately immersed in water, and additional water is allowed to fall upon it from a cistern.—The steel is, considered to become very materially harder for the treatment, and the iron around the same is also partially hardened.

These are, in fact, applications of the case-hardening process, which is usually applied to wrought iron to give it a steely exterior, as the name very properly implies. Occasionally steel which hardens by bad treatment, or too frequent passage through the fire, is submitted to the case-hardening process in the ordinary way, by enclosing the objects in iron boxes, as will be explained. This in part restores the carbon which has been lost, and the steel admits of being hardened; but this practice is not generally recommended, although it is well employed for the purpose of transfer engraving, a method introduced by Mr. Jacob Perkins, and which took its origin in the curious transfer processes of the calico-works, wherein, however, copper is the material principally used.

Various methods have likewise been attempted to prevent the distortions to which work is liable in the operation of hardening, but without any very advantageous results: for instance, it has been recommended to harden small cylindrical wires by rolling them, when heated, between cold metallic surfaces to retain them straight. This might probably answer, but unfortunately cylindrical steel wires supply but a small portion of our wants.

Another mode tried by Dr. Wollaston was to enclose the piece of steel in a tube filled with Newton's fusible alloy, the whole to be heated to redness and plunged into cold water. The object was released by immersion in boiling water, which melted the alloy, and the piece

came out perfectly unaltered in form, and quite hard. This mode is too circitous for common practice, and the reason why it is always to be successful is not very apparent.

Mr. Perkins resorted to a very simple practice with a view of lessening the distortion of his engraved steel plates, by boiling the water in which they were to be hardened to drive off the air, and plunging them vertically; and as the plates were required to be tempered to a straw color, instead of allowing them to remain in the water until entirely cold, he removed them while the inside was still hot, and placed them on the top of a clear fire until the tallow with which they were rubbed, smoked; the plate was then returned to the water for a few moments, and so on alternately until they were quite cold, the surface never being allowed to exceed the tempering heat.

From various observations, it appears on the whole to be the best in thick works thus to combine the hardening and tempering processes, instead of allowing the objects to become entirely cold, and then to reheat them for tempering. To ascertain the time when the plate should be first removed from the water, Mr. Perkins heated a piece of steel to the straw color, and dipped it into water to learn the sound it made, and when the hardened plate caused the same sound, it was considered to be cooled to the right degree, and was immediately withdrawn.

(To be Continued.)

Fencing, &c.

The following remarks on "Fencing &c.", will apply as well to South Carolina and all other States having no fewer laws, as to Virginia.

Very few persons we believe are aware of the yearly expense of making and keeping up fences. It is a subject worthy the serious consideration of agriculturists everywhere. We need say nothing to our legislators about it, however as they would not venture to lay a tax on worthless dogs least they might offend "the dear people."—Eds. F. & P.

Mr. Editor,— Your correspondent "M. C." in the January number of the Planter, makes some very interesting remarks on the subject of fencing, which he hopes may tend to lessen the "onerous" tax upon the farmers of Virginia, for says he, "No man looks forward with any hope to any modification in the law of enclosures," and proceeds to show the great necessity of looking out for some cheaper plan of fencing than the present mode; we may derive much information from

his observations and plans—they are good. But I must beg leave to differ with him in reference to a "hope," at least in the modification of the fence law, and in the same number of the Planter he may see that the "Farmer's Club of Nottoway county," not only entertain a hope, but under a consciousness of the justice of their cause are now petitioning the Legislature of Virginia for some change or modification in the law, and it is my deliberate opinion, and has been for years, that it is only necessary to persevere and agitate the subject until ample light is afforded, and the end desired will be accomplished. It is one of those subjects involving principles that will bear investigation. But very many of the farmers consider a fence as indispensable as ploughing their land, and hence never calculate how enormous the tax of fencing is, and upon whom the heaviest burden falls, hence never think of relief, and the burden is daily increasing, which I think I can show. At no distant day we shall not hear with indifference the loud and just complaints of the farmers in lower Eastern Virginia, but a large majority of all classes east of the Blue Ridge will see the justice of uniting with their suffering brother farmers of the lower country, praying the Legislature to modify or repeal the fence law; and when it is felt and seen that the general interest and justice both demand it, we have only to ask it and it will be done. Let me present, for the consideration of your readers, a few plain facts: Look at the vast improvements now going on to our section of country, the immense demand for lumber in your cities, towns, and villages, and for plank roads and railroads, canals and bridges, and for farm buildings. The use of guano, plaster, lime, &c., bringing into cultivation many poor sections of land from which we have received large supplies of lumber, the rapid increase of our crops of wheat, already very large, constantly making drafts upon the best oak of all kinds, and chestnut for barrel timber, and a great amount of undergrowth destroyed by getting timber to steam saw mills in operation, cutting from two to five thousand feet of lumber per day, an aggregate of not less than sixty thousand feet per day within that space, and they are being scattered in all the country east of the Blue Ridge, and many carried beyond it. Poor timber lands have increased in value within four years from one to three hundred per cent; and such is

the facility of transportation, that firewood is an article of trade—and is in demand—and every tree that will make one hundred fence rails is worth from fifty cents to one dollar each. Now, are not these startling facts? Many inquiries are now made by the thinking part of the community, what shall we do soon for building and rail timber and firewood? I now propose to show that the heaviest proportion of the great expense of fencing falls on the poor man, or man in common circumstances, owning a small farm—and as timber rises in value it will become more burdensome. Fencing under the present system, ten rails to the panel, making 3,680 rails, hauling and putting up, worth \$1 per hundred, \$36 80 37 trees to make them, worth 50 cents each, 18 50

Interest on this sum, 9 years the last of a fence, 29 86

\$85 16

Annual Tax of 10 acres, to say nothing of repairs, &c. \$9 46

Fencing 100 acres under the same system, &c. making 11,200 rails hauling and putting up, at \$1 per hundred, \$112 00

112 trees to make them, worth 50 cents each, 56 00

\$168 00

Interest on this amount 9 years, 90 72

\$258 72

Annual Tax of 100 acres, saying nothing of repairs, &c. \$28 63

This is a fair calculation under the present system, showing most clearly that the man with a little farm of ten acres pays a tax of about one third as much as the man with one hundred acres. The former making perhaps twenty or thirty barrels of corn, and the latter making two or three hundred, perhaps four hundred barrels—clearing land and cultivation cost the same per acre. Now, whose corn costs the most to make it? I think I have proved that a great disproportion of the enormous tax of fencing is upon the poor man, and when the time come, come it must, when with our friend "M. C." we have to resort to rock ditching, wire and Osage Orange hedges, will it not bear still harder upon the poor

man? Why will we not take the advice of Solomon. "The prudent man foreseeth the evil and hideth himself," and learn to live under a modification of the fence law before a worse thing comes upon us. Once more let me try to make the matter more plain for those who may not understand it. Let us suppose a case: suppose the Legislature of Virginia was to repeal the fence law, and agree to allow every farmer so much per head for keeping his cattle in an enclosure, say one dollar each, and to raise the money for this purpose, was to levy a tax upon every farmer exactly as they tax themselves in fencing.

Here is the statement:

The 10 acre farmer is taxed annually as above,	\$9 46
Allowance made him for keeping say 3 head of cattle at \$1 each,	3 46
A clear loss of this sum,	\$6 00
The 100 acre farmer is taxed annually,	\$28 63
Allowance made him for keeping 30 head of cattle—if the other keeps 3 he ought to keep 30, at \$1 each,	30 00

A clear gain of this sum,	\$1 37
---------------------------	--------

I will now suggest a plan which in my opinion, will in effect, in a considerable degree, act as a modification of the fence law: Let every farmer keep good gates, instead of draw-bars and gaps, and keep his stock in proper bounds in winter, as well as summer, thereby preventing their stock from learning their powers and contracting mischievous habits; and at the same time pray the Legislature of Virginia to enact a law to prevent those very unruly and ungovernable animals, bulls and boars from running at large. They soon learn their strength, and seldom turn to the right or left for any fence prostrating the fences as they go at any season of the year, letting in other stock to their ruin and an immense destruction of crops, sometimes eating up the "ten acre field" in one night, and such events often cause strife and discord among neighbors—and such animals are dangerous in many instances, and at any rate are very alarming both in the country and in villages, and roaming as they do, farmers cannot expect to improve their stock, nor can they have their calves and pigs at a proper time, which often renders them as valueless.

Yours, respectfully,

W. TIMBERLAKE.

—Southern Planter.

From the Newberry Sentinel.

Meeting of the Agricultural Society.

That eminently useful association, the Newberry Agricultural Society, held its eleventh annual Fair at this place on Wednesday last. There was an immense crowd of visitors in attendance—estimated by many persons as high as two thousand, by none less than fifteen hundred—gathered together from various sections of this and the neighboring districts, Lexington, Union, Laurens, Abbeville and Edgefield, to witness the interesting exhibition. The interest manifested on the occasion is an evidence of the incalculable good the Society has done to the cause in which it is engaged, and should stimulate its members to continue, and if possible, to increase their labor to improve the agriculture of our district and State. The success of the Newberry Agricultural Society should lead others to form similar associations and to emulate its noble example.

The interesting and full report of the proceedings of this body furnished us by the obliging secretary, and published in another column, precludes the necessity of our saying much in relation thereto.—Suffice it to say, the exhibition was highly creditable to the Society and to the district. In the department of domestic manufactures and of the products of the orchard and garden particularly, there were various articles on exhibition unequalled by any similar display we ever saw. The animals competing for the various premiums were remarkably fine, especially the cows and calves, hogs and sheep. There was entertainment for mind too.

The speech of Maj. Crosson richly merited the complimentary resolution adopted by the Society, though there are some views advanced which we cannot fully endorse. The reports of the various committees are very full and interesting. These several documents we shall spread before our readers as fast as we can dispatch them.

Proceedings

Of the Newberry Agricultural Society, at its Annual Meeting, held at Newberry Court House, July 28th, 1852.

The Newberry Agricultural Society met in the Baptist Church at 10 o'clock, A. M.

The Hon. J. B. O'Neal, the President, took the chair, and called the Society to order.

On motion of Henry Summer, Esq. Wm. M. Lawton, of Charleston, was

elected an honorary member of this Society.

The President then appointed the following persons on the following committees, to examine the stock and other articles exhibited, and award the premiums, viz.:

On Domestic manufacture—Wm. M. Lawton, J. K. Schumpert and Silas Johnson.

On Horses—J. P. Kinard, Geo. H. Chapman, T. H. Henderson and Lemuel Glymph.

On Mules—Robt. Stewart, Cary McClure and John Harp.

On Cattle—Gen Jas. Rogers, Isaac Herbert, J. P. Williams and J. R. Spearman.

On Hogs—D. W. Rutherford, W. R. Lane and Geo. Brown.

On Sheep—Col. J. Glenn, G. Boozer and W. D. Reagin.

On Fowls—Simeon Fair, A. C. Gardiner and J. H. Giles.

The Society at this stage of its proceedings took a recess for the purpose of giving the committees an opportunity of examining the articles exhibited.

At 12 M. the Society re-assembled in the Baptist Church, and Maj. J. M. Crosson, the orator of the day, then delivered a very eloquent, excellent and practical address, which was listened to by the Society with marked attention.

The President delivered the cups and books which were awarded at the last meeting to those entitled to them, with an appropriate address to each.

Mr. Robert Stewart, chairman of the committee on corn, submitted his report.

Col. Simeon Fair, chm. of com. on wheat, submitted his report.

Mr. R. N. Davidson, chm. of com. on rye submitted his report.

Col. A. G. Sumner, chm. com. on hay, &c., submitted his report.

Capt. M. Hall, chm. of com. on horticulture, submitted his report.

Silas Johnson, chm. of com. on the necessity of a liberal education for farmers stated that his report was mislaid, but would be handed in for publication.

Maj. M. Harris, chm. of com. on potatoes, submitted his report. James R. Spearman one of the same committee, also submitted a report.

Wm. Sumner, chm. of com. on reclaiming land submitted his report.

Dr. W. H. Harrington, chm. of com. on the nature of the different soils of Newberry District, their adaptation to different crops, and their capability of

improvement, did not submit his report, but promises to have it ready for publication.

Dr. O. B. Mayer and Dr. J. A. Renwick submitted their reports on the endemic diseases of Newberry, if any there be, a short, plain, and practicable mode of treatment.

Col. J. W. Watts, chmn. of com. on mules, promised to have his report ready for publication.

The committee appointed to examine stock, &c., and award premiums, now made their reports.

Wm. M. Lawton, chmn. of the com. on domestic manufactures reported that they had awarded the premium to Mrs Linda Brown for a coverlid of wool and cotton.

On motion it was ordered that the President procure suitable books and present them to each one of the ladies who exhibited articles of the dairy, orchard, garden, loom, needle or brush.

Col. A G Summer, chmn. of the com. on farming tools, reported that they had awarded the premium to J K Schumpert for the best wheat fan; to the same for the best plow, being the "two horse Broyles' subsoil plow," and recommended that an additional premium be given to J R Spearman for his "gage plow for draining rows," &c.

R Stewart, chmn. of com. on mules, reported that they had awarded the premium to John Wallace for the best two year old mule; to Martin Kinard, sen. for the best one year old mule, and to John Wallace for the best suckling mule.

Gen. J Rogers, chmn. of com. on cattle, reported that they had awarded the premium to Fredrick Nance for the best bull; to Robert Stewart for the best milch cow; to J W Ducket for the best suckling calf, and to J D Williams for the best pair of oxen.

Dr. T B Rutherford, chmn. of com. on hogs, awarded the premium to Henry Burton for the best boar; to A G Summer for the best breeding sow, and to Richard Chapman for the best litter of pigs.

J P Kinard, chmn. of com. on horses, reported that his committee had awarded the premium to Dr. T B Rutherford for the best two year old colt; to Col. Wm. Steen for the best one year old colt, and to Silas Ray for the best suckling colt.

Col. J Glenn, chmn. of com. on sheep, reported that they had awarded the premium to J W Watts for the best Bawell ram; to Robert Holman for the best

ewe; to J D Williams for the best pair of lambs, and to J W Watts for the best fleece of wool.

Col. S Fair, chmn. of com. on wheat, reported that they had awarded the premium to J R Spearman for the greatest yield of wheat on two acres.

Col. Fair, chmn. of com. on fowl's reported, recommending that the President procure suitable books to be presented to Col. A G and W Summer for the very superior and new variety of fowl's exhibited by them, which was so ordered.

On motion of Dr. W H Harrington, Col. Simeon Fair was elected Vice President of the Society, in the place of Walter Herbert, Esq., deceased.

On motion of Gen. J Rogers, the old officers of the Society were re-elected to serve another year.

On motion of Col. Summer it was resolved that this Society send six delegates to the Agricultural Fair which is to take place at Macon, Ga, next October. The following persons were appointed as delegates: A G Summer, R Stewart, W H Harrington, J H Giles, H H Kinard, J W Watts.

On motion it was resolved that this Society send fifteen delegates to the Fair to be held by the Charleston Institute in November next. The following persons were appointed as delegates: Simeon Fair, A G Summer, Wm. Summer, R Stewart, J W Watts, Gen. J Rogers, Lemuel Glymph, G W Glenn, J Glenn, T B Rutherford, H Burton, M Harris, G T Scott, E R McMorries, and T H Chappell.

On motion of R Stewart, it was resolved that the annual meeting of this Society be held on two days, and that the ladies be invited to attend, and that a picnic be prepared for the occasion.

On motion of Col. A G Summer, it was resolved that an executive committee be appointed to make arrangements to receive the stock, make arrangements for a picnic, &c. The following gentlemen were appointed on that committee: R Stewart, L J Jones, J M Crosson, W A Harrington, E Y McMorries, and J A Cannon.

On motion of Dr. W H Harrington, Col. A G Summer was elected the annual orator to deliver an address at the next meeting of the Society.

On motion of L J Jones it was resolved that the thanks of this Society be tendered to Maj. J. M. Crosson for the very able, eloquent and instructive address with which he has this day treated

the Society, and that be be requested to furnish a copy of the same for publication.

The Society adjourned.

L. J. JONES, Secretary.
—Newberry Sentinel

Letter from Colo.

MESSRS. EDITORS:—Your August number is before me, received to night. Sorry to see you are hesitating, that your support warrants you not in continuing. Perhaps a change of place may in being more central draw around you stronger friends. What can be the matter? Where is all the spirit of Carolina gone? Patronising other papers, and leaving their own to starve! Is want or competency charged? Is it want of fealty to the one great cause? If so my friends, resign into other hands but fail not.

Can "Colo" by any labors of his give you success? If so, name the hour, and command, I am a minute man, as much to do as I dare undertake, but if my mother—Carolina—needs my help, poor as it is, in any shape, she shall have it. Business not my own, for which I receive not, nor ask even my expenses, employ the most of time, yet I can take an half hour more per night from that sleepy god, and lie be no loser, and devote it to a worthy cause. Just say to your present subscribers, how many new subscribers each has to be forthcoming to ensure success, on condition that "Colo" will labor as a common hand at the oar, or to trim the sails, or to sow away the freight, and when you have secured passengers to pay—then "Colo" shall be along to tell a tale, that old time may be light with his touch as the hours of your goodly company.

"Colo" makes only the one promise—to be no eye-servant, but to work faithful. Will "Broomesedge," will "Coke" not join "Colo" in this? Years younger men, possesing not only younger blood, but more energy and more expertness; though younger yet I joyfully grant ye the palm, and will under such leaders do to the death in a noble cause.

Has summer all past, and the winter of our discontent set in? Shall we see other favored co-laborers rally together and thus as ancient bonds of well-clad soldiers defend our part from all assaults of the monsters "fail," "want of success" &c.

Let us show our friends Messrs. S. & G. that we know not "fail," and that we will succeed.

What say you readers, subscribers, will ye not search up volunteers? What say you contributors, will you try a little longer? Let us one and all make one more effort. Even as weak a man as "Colo," by his little help, and by the warm cheering of "hard up boys" has taken the log to its last place, when all had given up. May it be so now is the servant wish of your well-wisher.

Colo.

One husband that is penniless and lazy and deprives his family of necessary comforts, such as his neighbors enjoy, is not as desirable a husband as he should be,



The Farmer and Planter.

PENDLETON, S. C.

Vol. 3., No. 10. ----- October, 1852.

F The Rev. THOMAS DAWSON, of Beaufort District, is appointed an agent of the *Farmer and Planter*.

F H. P. DOUTHIT, of Alabama, is an authorized agent for the *Farmer & Planter*.

Letters Received Since our Last.

AGRICOLA, Greenville, S. C. Thank you our old friend for both your last article on Sap Suckers, and this on Mad Itch, which came to hand too late for our September number, in which you have, before this comes to hand, found an article on the same disease, which we have but little doubt is caused by a deranged state of the stomach from taking food to excess or an improper irritating kind as in the case of the corn stalk rejected by hogs.

Col D. C., Van Wert, Ga. All right Colonel. Can't you help us to a few more subscribers from your office?

Wm. A. M., Beaufort, S. C. Thank you friend M. The papers have been sent as directed to the new subscribers, and amount credited. See your notice of the Caterpillar in another column.

J. P. H., Woodruff's, S. C. Amount received, and paper sent to P. M. B. as directed. Shall be much obliged for "more of the same sort."

T. V., Mt. Sterling, Ala. Our highly esteemed friend will please accept our acknowledgements for his favor, the amount enclosed for your Club is received, and papers to all including you &c. as requested, shall be pleased to receive the additional club it to be gotten up without too much inconvenience to yourself.

Gen. P. Q., Leesville S. C. The Georgia money sent us General is good, and one dollar more than you owe, which stands to your credit. We feel greatly obliged for the expression of your favorable opinions of our humble labors, and have taken the liberty to publish in another column a part of your friendly communication. Your promised contribution will be most acceptable.

P. M., Smithville S. C. We have written you on the subject of enquiry.

J. P., Oakborery, Ala. Thank you our good friend for your kind attention, your request has been attended to and papers sent to new subscribers. We have also written you more fully on the subject.

P. M., Claytonville, S. C. Your suggestions are good and shall be attended to.

Colo. Miss. Very many thanks friend Colo for your renewed attention. We have had many favors from you, but none more refreshing than this. A friend in need is a friend indeed. Would that we had a thousand more such in every State. We have some however, and they are beginning to show their hands, with such friends all may be right yet. Your good will is duly appreciated we assure you. We call the attention of other friends of the F. & P. to yours and other articles in its favor in the present number.

D. B. K., Monticello S. C. Your favor and good wishes are duly appreciated friend R. We have sent the F. & P. to your list of new subscribers, and take the liberty to publish a part of your letter below, as we desire to set as many good examples before our readers just at this time as possible.

MONTICELLO, Aug. 18th, 1852.

MESSRS. EDITORS.—I have been a subscriber and reader of your useful, monthly issue about two years, and am so well pleased with it, that I recommended it to some of my neighbors, and requested them to become subscribers thereto, all that were present consented to do so, and I herewith enclose their money to you, hoping it may reach you in time, for them to receive your first issue.

I feel satisfied that with some little trouble, and the right kinds of recommendation by the readers of the Farmer and Planter, that nearly every planter in the State could be induced to take this valuable work, and indeed *all* should take it. I do not like the idea of promising too freely, but now think that when I commence collecting taxes next Spring, I will add something to your subscription list.

Wishing you great success in your very praiseworthy undertaking, I am your humble servant, &c.

D. B. K.

A. S. T., Clinton, Ala. The paper has been sent regularly to you, but to Savannah, instead of Clinton. We have wrote the P. M. to forward to you at Clinton. You can have vol. of 1851 at the regular subscription price.

H. H., P. M., Sumterville S. C. Amount received, and paper sent to N. F. S., commencing with No. 6. we can supply all back numbers, except No. 1, which is exhausted.

J. H. R., Winnsboro' S. C. Amount received and sent papers as requested.

N. W. DAVIDSON, Glynphville S. C., to whom we are under many obligations, writes us as follows:

* * * * *

I notice in your August number, that you seem to intimate that you will be forced to abandon the enterprise at the close of the present volume. This I am truly sorry to hear for I sincerely believe I have learned more about farming in the

last 20 months, by reading the F. & P. than I had done in ten years previous.

I am a poor man, but rather than know its publication abandoned, I am willing (with your permission) to make the following proposition to the farmers, through the F. & P. viz: that I will make one of one hundred who will pay five dollars for five additional copies of the Farmer & Planter, (the 4th vol.) or I will make one of one hundred who will pay two dollars for one copy for the next volume.

N. W. D.

Press him Round.

It will be recollect by many that a certain Advertisement of one "Andre Leroy, Nurseryman, at Angiers, France," by E. Bossange, 133 Pearl street, N. Y., went the rounds of the papers last winter and spring. With others we published it in the Farmer and Planter on seeing the following request at the close of the advertisement, "Agricultural papers will please insert the above three times and send the bill and a copy of each paper to E. Bossange." Not a word said about the time in which it should be inserted, take notice, and yet on presenting our bill to this veritable agent, E. Bossange, he makes on the face of it the following endorsement, "Refused. It was to be advertised in proper time, and not after the season is over."

Now whether this will be considered a legal or honorable excuse, or a lying subterfuge to evade the payment of a just debt, by the press generally, is not for us to say, we have our own opinion however, and shall always take pleasure in exposing an imposter.

Our exchanges in New York will please copy.

Vinegar.

We were presented a few days since with a bottle of excellent Vinegar, made by a subscriber. Mr. Thos. Crenshaw, from the following receipt, which we published at his request.

To eight gallons of water, add one gallon of molasses, and a $\frac{1}{2}$ gallon of spirits. Put into a cask, shake well a few times, and then add a pint of good yeast or two or three cakes. Keep in a warm place. In ten days slip a sheet of brown paper rolled up and dipped in molasses into the bung hole. Cover the bung hole with a piece of gauze or muslin until the vinegar is good, then close it.

FRUIT TREES—We call the attention of our readers to the advertisements of Mr. Wm. Summers, of Pompeii, S. C. If you want good fruit and such as will keep in the South, apply to Mr. S. who will supply you on as good or better terms than you can procure trees elsewhere.

We have set out since a boy, when we planted the first for our widowed mother, several orchards, and experience has taught us not to depend on Northern fruits as certain to succeed

in the South, some of the best keeping Northern fruits invariably rot with us before the winter sets in. Hence if we were going to plant another orchard, (and we are adding to ours yearly,) we should make all our selections at the South. Will Mr. S. send a catalogue of his best keeping winter apples?

FINE PEARS.—With our most polite bow we take pleasure in acknowledging the receipt from Miss Smith, of a basket of the most delicious Pears, such as White Doyenne, Seckle, Bartlett, &c. This fine fruit is from the orchard of our good friend and neighbor; the late J. L. North, who had made a choice selection of the best fruits of every kind.

THE VETERINARY JOURNAL.—We are sorry to see in a note attached to the last number of this excellent work, that it is to be discontinued, the Editor says "for a short period, or until he can obtain the services of some qualified person to relieve him of professional duties."

Mr. M. of Beaufort writes us Aug. 11th.—"The Cotton Caterpillar has commenced its ravages in our long cotton crops. I saw several brought from a neighboring Island and was informed that they had destroyed a quantity of Cotton on the plantation. They were admitted to be genuine by experienced planters. If they spread the Sea Island crop will be short."

We make the following extract from a letter received from an esteemed subscriber at Leesburg S. C.

"From the commencement of the publication of your paper to the present, I have been a constant reader of it; and without intending to flatter you, candor requires that I should confess that I have read it with interest, and I hope profit. For several years I have been a patron to some agricultural paper, as well as many political and literary ones; and it is my firm conviction that money cannot be better expended by a planter than by procuring such general information concerning his profession, as is to be obtained only through some well edited agricultural work. Considering the means you have at command, we should be well satisfied with what you have done to make the Farmer and Planter a work worthy of the patronage of farmers and planters in the South; and I would regret exceedingly to see it sink for the want of needful support. I may some day, when more at leisure, attempt to furnish you with something from my pen, worthy of a place in your columns. For the present I must beg your pardon for my former neglect; and be content to subscribe myself your well-wisher and friend." P. Q.

Wheat.

By the time our present number comes to hand, many of our readers will be making preparations for Wheat sowing. The attention of such is called to an article on another page from the pen of R. W. Withers, President of the Greensboro' Agricultural Society on the subject,

If we were to take more pains in the preparation of our wheat land by thorough plowing, and even sub-soiling before sowing, and afterwards in putting the grain properly in, we should without doubt make much more and better wheat than we do. We lost a crop of wheat the present year from the slovenly manner in which the seed was put in, during our absence from home. We saw it as soon as we returned, but it was too late. The land which had rested a year after oats, was turned down late in the fall with a two horse plow. On the reversed sod we directed the wheat to be sown, and well covered by first receiving the cultivator, and then the harrow, but both operations were so badly performed, that not much more than half the grain was covered, and what was, was so shallow, that the heavy freezes threw it out by the roots, so as to make almost an entire failure. Few persons are disposed to speak of their failures, situated as we are, however, we consider it a duty we owe to our subscribers to guard against falling into like errors. We would here remark, we are by no means in favor of covering wheat very deep, from two to three inches we think the proper depth in our latitude. On land that has been previously plowed, the cultivator and harrow in proper hands are altogether sufficient to cover with. Our practice has been to use the roller also, some object to its use, believing that it caused the wheat to spew out more than it would do without rolling, of these we have not sufficient proof to cause us to abandon its use, that it is decidedly beneficial after the frost is out of the ground in the spring, there is not the shadow of a doubt in our minds.

We had intended making an experiment on our next crop of wheat with Kettlewell's fertilizer and Guano, but the late disastrous freshets have so torn up our rail roads, that we fear we shall not be able to get it up without paying freights that would preclude its use. We trust many of our subscribers who may be more favorably situated will make the experiment and report through the Farmer and Planter. But whether you use fertilizers of any sort or not, be sure not to neglect steeping your wheat in a strong solution of Bluestone, and then roll in lime if you have it. Not less than one pound of blue stone should be used to five bushels of wheat. Many persons fail in preventing smut and then condemn the remedy for the only reason that the solution is too weak. There is no reasonable excuse for having smutted wheat.

Crops, &c.

On noticing in our last the crop of Mr. A. F. Lewis, we promised to give an account of some others we had examined, in this number, but a change has come over the spirit of our dreams since our brightest anticipations have been turned into despondency. That superior crop has been prostrated, and very much of it now lies buried in the alluvial deposits of the Seneca, and so with all other crops on the low lands of our water courses.

We had examined the crops of our neighbors Mrs. North, of Dr. R. E. Elliott, and of W. C. Smith, all of which were under the superinten-

dence of Mr. A. Boggs, who has convinced us from the manner in which he has conducted the operations on these farms, that there are but few more of his age, and in his line of business who are his superiors. The crops we found very fine indeed, especially the corn on the low lands of the 18 Mile creek, and one field of fresh upland on Mrs. N.'s farm, we thought the best new ground corn we had ever seen, with Cow peas proportionably good, but a different tale might now be told of the prospects, especially on the low lands. Let us however not complain, but submit with becoming humility.

The Late storm and Freshet.

Of this disastrous event it is scarcely necessary only as a matter of record in the Farmer and Planter—for us to say anything, as full and appalling accounts have been circulated by the newspapers through the whole length and breadth of our land. Of the almost universal destruction of bridges, mills, factories, &c. &c., enough has been said; of the number of inches of rain that fell from Friday evening (29th Aug.) commencing about 8 o'clock to near midnight on Saturday, we had no reliable means of ascertaining, but we presume more than has ever fallen during the same length of time in our neighborhood. Three of the water courses did not indicate as great a rise as in the great freshet nineteen years ago, but we believe it was owing to obstructions which then existed below those points at which measurements were taken, having been removed, and consequently allowed the water to pass off more freely than before. Be this as it may, it was high enough as most of us sorely feel at this time. The damage to the country is incalculable, no one can even approximate the amount with any certainty.

Tobacco, Pickens Lands, &c.

Why is it that farmers in the upper districts of all our Southern States do not cultivate more tobacco? We believe as much may be made to the acre on similar land as in North Carolina and Virginia, and if as well handled we presume the quality would be but very little, if anything inferior. Then why is it, we again ask do we not cultivate more of our rich mountain lands in tobacco? so as to produce at least the quantity that is consumed in the State instead of paying the enormous amount that goes yearly to the tobacco growing regions for your supplies. We are no consumer of the "vile weed," if we were, we are right sure we should produce yearly at least to the amount of our consumption, as is the practice we believe with our neighbor the Hon. R. F. Simpson who makes and manufactures yearly not only enough for his own use, but for that of his negroes and some to give to his neighbors who are less provident than himself.

We recently (September 1st) visited our young friend R. Maxwell, jr., in Pickens district, and after we had taken a bachelors' dinner with him (here's a home young ladies worth setting your caps for) were invited to see his crop of tobacco and corn, and were delighted

to find he had about seven acres, a part land that had been cleared many years, and a part new, (cleared the last winter) in tobacco which promises a fair yield and of superior quality both for chewing and smoking, the latter from seed procured in Florida. A part of the old land had been lightly manured, the balance, and the new land had no manure. Now altho' we understand as much as 800 wt. of cotton pr. acre has been made on the place, yet we think our young friend has shown more wisdom in choosing the tobacco crop for his latitude, than he would have done by giving a preference to Cotton. A shower of rain prevented our seeing the corn crop, which we understood, both from Mr. M. and others was very superior, especially that on his Cane Creek bottom.

The following on the Culture of Tobacco on thin land, with the aid of Guano only, will be interesting to many of our readers.

MR. EDITOR.—In a hurried conversation with Col. BonDurant last fall, in Charlottesville, I stated that I had raised tobacco on very thin land without the aid of any other manure than guano and plaster. Now, although I think it more than probable that the conversation has passed from his mind entirely, still justice to him, as well as myself, requires that I should state the experiments exactly as they were made; In 1850, after preparing the land as usual with the plough and harrow, about three hundred pounds of guano and one hundred and fifty pounds of plaster were sowed on an acre, and then hilled with the plough: a portion of this land had a dressing of straw and chaff, which aided the crop of tobacco very much; also, the crop of wheat, * and is very visible now in the crop of clover, being fully equal to that on similar land, manured with forty loads of stable manure to the acre, but no guano. In 1851 the same experiment was tried, and up to this time promises a similar result, the land being now in wheat. A portion of this crop of tobacco, manured with straw, guano and plaster, was immediately adjoining a lot that was thought to be sufficiently rich without any aid, it being the yard and garden of an old settlement, and very rich; when compared with

*The crop of wheat on all this land was very fine, (except the portion destroyed by the joint worm,) and the result may be safely estimated in the following manner:

Crop tobacco, 1000 pounds per acre, at 9 cents,	90 00
Crop wheat, 20 bushels per acre, at 60 cents,	12 00
	102 00
Cost of guano,	9 00
	\$93 00

from which must be deducted the usual charges of cultivation, getting to market, &c., to obtain the nett profit of the operation.

the adjacent land, the result in tobacco much in favor of the guano portion. I also in 1830 sowed about four hundred pounds per acre on a small portion of the crop of tobacco, and some plaster; this, though not too much for the tobacco, I thought rather too heavy a dose for the succeeding crop of wheat, some of it lodging, notwithstanding the fine season, and leaving a very indifferent stand of clover.

THOS GARLAND.

—Southern Planter.

The Wheat Crop.

A paper read before the Greensboro' Agricultural Society, on the 14th of August, 1852, by R. W. Withers, President of the Society.

GENTLEMEN OF THE SOCIETY:—The adaptation of our climate to the successful cultivation of small grain, and more especially of wheat, being the subject proposed by the proper committee for our consideration to-day, the importance of the subject, and the deep interest I feel in persuading our planting community to raise their own breadstuffs, have induced me to offer you such remarks and reflections on the subject as my own experience and observations may suggest. Besides the duty which your partiality has imposed upon me of presiding over and elucidating, as far as my limited information enables me, all subjects of the kind which are discussed at our monthly meetings, my opinion has lately been appealed to on this subject by one of our ablest periodicals in a manner to which I am always ready to respond from that source; but having only a very short time to spare from the pressing calls of business to devote to the subject, I shall not trouble you with any lengthened treatise, but only such thoughts as occur to me as important, in the order in which they may happen to arise.

Wheat (*Triticum Hyburnum*) under the generic name of corn, has been known as the principal food of man from the earliest times of which we have any record. In the history of Joseph and his brethren, we not only learn this fact, but also that it was raised in great abundance in very warm climates. The adaptation of our climate to its successful cultivation, can therefore hardly admit of any doubt, but such a great variety of different kinds of wheat have been introduced amongst us, principally from the North and West, which had to change their habits, before they could adapt themselves to our climate, and so frequent have been the failures from this cause, as to create quite a diversity of opinion even among our most intelligent planters as to its successful cultivation amongst us. The causes of failure in the wheat crop have however arisen in most instances from circumstances so entirely under our control, that we think they can, in a great measure, be obviated. The first and most obvious of the causes of failure in Alabama is the slovenly manner in which the ground is prepared and the seed sown. Absorbed as we are with the gathering of the main staple of the country, at the proper period for sowing wheat, it is hurried over as a job which is to be gotten rid of, rather than one which requires our very particular care and attention. Our corn land, which is principally appropriated to that culture (as the cotton matures too late for the sowing of wheat) is, as we all know, generally covered with a heavy coat of crop grass and weeds as soon as the fodder is pulled, and the corn ceases to draw any more on the soil; and while in this situation, without any previous fallow, it, for the most part undergoes an imperfect scratching; while the seed which have been sowed upon the high corn ridges, and fall mostly into the water furrows, causes the wheat to be too thick in some places and too thin in others. Being very imperfectly covered, a great deal of it dies after it comes up, as it is sowed in what is generally the driest season of the year, and a good deal is subsequently spewed out by the frosts of early winter. Being a very unpopular crop among the managers of our estates, they seize upon every opportunity to decry it, and hence it is that we yearly send off tens of thousands of dollars from many of our most fertile counties, to purchase that which we could easily raise at home. But even aside from the bad economy of glutting every market in the world with cotton, and thereby depressing its value, we are impoverishing ourselves by creating an exorbitant demand, and consequently high prices for those articles which we consume ourselves. As a matter of luxury, if not economy, we ought to raise enough wheat for our own consumption; for the flour which we obtain from the West is by this season of the year mostly stale, if not absolutely sour, and we can hardly expect to obtain any fresh supplies till near the close of the year, owing to the low stage of the water in our rivers.

With these preliminary remarks, and believing, as we do, that wheat can be

raised even profitably in South Alabama, we will briefly point out some of the most obvious causes which have led to its frequent failure in this part of our state. It may not be improper to remark in the outset, that of all the cereal plants, wheat is the most liable to diseases and casualties, even in those parts of our country where it is relied upon as a leading crop. Besides the diseases of rust, smut, &c., it is infested with many tares, (as they are called in Scripture,) which it is very difficult to keep out of the field, or separate from the true grain when harvested, as cheat, spelt, cockles, wild onions, &c. To enter into any minute description of these would consume more time than we at present have an opportunity of devoting to the subject, and indeed they are so familiar to most of you that it is not necessary. It may not be out of place, however, to give a receipt to prevent smut in wheat, which has long been used by Col. Sam. Pickens of our vicinity, and as he informs me, with complete success. To about half a barrel of water add two tablespoonfuls of powdered bluestone* and fill up the barrel with the wheat intended for seed. Let it remain for ten or twelve hours in soak and repeat the same process as often as necessary, using the same water, and adding one tablespoonful of bluestone for every two bushels of wheat soaked. Most of the directions however, prescribe a larger quantity of bluestone. Copperas and strong brine are said to have the same effect. The most general causes of failure in the wheat crop may be attributed to the injudicious selection of seed—the slovenly and imperfect manner in which the ground is prepared—and the late period at which it is frequently sowed.— Having, as we before stated, but very few friends amongst those to whom we are too much in the habit of trusting the management of our plantations, the seeding of the wheat crop is generally hurried over in the shortest possible time, being one of the jobs which interfere very materially with the picking of cotton. As long as we allow the greatest number of cotton bales made to the hand to be the criterion of excellence in our managers, this will inevitably be the case.— Every planter should keep a strict account current with his plantation, in which the raising and production of every thing necessary for its consumption, and more especially the improvement and increased value of the land, should occupy a conspicuous place. Without

this he cannot tell whether he clears a fair dividend on his capital, though he may be a large producer of the staple of cotton. To return to our subject, however,—the very first step to be taken, is the most essential one in the culture of wheat, and that is, to give the land a thorough and deep fallow. This is especially necessary, for two very obvious reasons—it gives to the roots of the wheat a deep, warm bed for the winter, and enables it in the succeeding spring and summer, when the grain is maturing, to draw a more regular and steady supply of moisture from the ground. It is not very material whether the seed is sown and plowed in by the two horse plow (if an even and clear fallow can be made,) or sown on the fallow and covered with a heavy brush or harrow; for the first roots thrown out by the wheat are superficial, where they can feel the warmth of the sun in winter. When the season is dry, however, it is the safest to cover it tolerably deep, lest it might sprout and then die for want of moisture, as is frequently the case. Where the land is choked up with crop-grass, cornstalks, &c., a heavy forked brush as large as two oxen can conveniently pull, is preferable to the harrow, as it is not so liable to choke up, and packs the ground better to the seed. As in all cases, to ensure a good crop, a good dressing of manure is essentially necessary. Nothing seems better adapted to wheat as a manure than rotten cotton seed, as being both a quick and stimulating manure; and containing in its composition a large amount of phosphorus, which assists in forming the phosphate of lime, which enters largely into the straw of the wheat.— They should be sowed broadcast on the land at the rate of from 30 to 50 bushels to the acre and plowed in with the wheat. As to the proper time for *seeding wheat*, no great diversity of opinion exists. As an almost universal rule, early seeding is the best. In the middle counties of this State I have frequently observed that it was sown in the last days of September, but with us, it is early enough to sow it between the middle and end of October. Much, however, will depend upon the season, and as October is generally a very dry month, it is better to wait till towards the close of it, than to sow before the ground is sufficiently moist, not only to bring it up, but to enable it to take root. Equally important with the due preparation of the soil, is the selection of the proper kind of seed,

to insure our success. As a general rule, avoid all new importations, (particularly from the North,) and sow that which has been longest acclimated—avoiding all late kinds of wheat. Most plants require acclimation, as much as animals, and perhaps none more so than wheat. In the Northern States, wheat, though sown for the most part in the fall, is mostly a summer crop, as it does not mature until July and August, and is frequently sown in the spring. Unlike most other grains, instead of maturing earlier by being brought South, it is really much later than the wheat which has long been acclimated. Hence it is invariably attacked by the rust when it has been but recently brought from the North, and frequently does not mature a single well filled grain. We all recollect but too well the result of the large importation of seed wheat made from the North and West a few years since.— Such has always been the result of the sudden transportation of wheat from the North to the South, as you will see noticed in our Patent office reports for last year. The Mediterranean wheat, when carried from South Carolina to N. York, succeeded perfectly well, but I have known the same wheat, brought back within the last two years from Virginia to Alabama, and prove utterly unsuited to our climate. Could we procure seed wheat from Mexico it would probably answer very well, but we should not go as far North as the Potomac. Determining from my own limited experience and from the information derived from others, I should say that the red May wheat which has been the longest cultivated among us, is the most to be relied upon. Many new varieties are occasionally introduced, but without any success. The two great enemies to our wheat crop are frost and rust, and when we steer clear between them we generally make good crops. It is safer, however, to risk the former than the latter, and as the injury from frost always occurs previous to, or about the middle of April, it is not then too late to make a crop of corn, or even cotton, on the same land after cutting the green straw, which makes excellent hay, at a time when we most generally need it.

Not the less essential to secure our success in raising wheat, particularly upon our lime lands, is the thorough and careful draining of the land by ditches and water furrows, so that no standing water will remain on it even in the wettest seasons. Though wheat will re-

main some time immersed under running water while young, without material injury, no crop is sooner soured and ruined by standing water. Hence in sowing, it is necessary to lay it off into beds, about eight feet (or 2 corn rows) wide, having such an inclination as to allow all the superfluous water to drain off. After putting in the grain, the water furrows must be thoroughly opened, with a two-horse plow, run both ways in the furrow—and when these do not effectually drain the land, water furrows must be opened obliquely across the beds, in such a manner as to carry off all the superfluous water. As these, when made with the plow, must necessarily obstruct the mouths of the original furrows, care must be taken to open them all into each other with the shovel or spade, and keep them so during winter.

Besides the luxury of sweet fresh bread during the summer, the wheat crop has other claims upon our attention. No crop, perhaps, loosens and ameliorates our worn and still soils so much as wheat, not only on account of its fibrous roots, but also on account of the large amount of litter and straw it leaves upon the land. After removing the crop from the land, we have the advantage of a fine pasture for our work animals at the time when we stand least in need of their labor.—Should we have the time to spare, very little cultivation will make a good crop of peas or yam potatoes after wheat; or, if it is neither cultivated or grazed, it will generally yield a fine crop of crop-grass for hay. We have known in our canebrake lands, a crop of corn made after wheat every year for a series of years, and in another instance, after 20 bushels of wheat to the acre, a crop of 300 bushels of potatoes raised to the acre the same season.

Under every aspect of the case, then the wheat crop has very large claims upon our attention, and should be allowed a niche in the yearly products of our farms. Though, to be entirely successful, it has to steer between Scylla and Charybdis of frost and rust. When it escapes the two enemies above enumerated, it yields a very remunerating harvest, and is much richer in gluten and nutritious matter, than wheat grown in more northern latitudes—and the flour makes better bread—and never sours from the heat and moisture of our climate.—*Ala. Beacon.*

*We should say at least one pound of bluestone to half a barrel of water, and then to add to each in proportion.—*Eds. F. & P.*



MERINO BUCK.

For the Farmer and Planter.

Sheep Raising.

MESSRS. EDITORS: I am desirous of going into the business of Sheep raising, being situated in the upper part of Pickens district, which is probably as well adopted as is any other section of the Southern States. Can you give me some information as to the best or most suitable breed for this section? If so you will much oblige

PICKENS.

REMARKS.—It will depend mainly upon the object you have in view in raising sheep in Pickens what the breed should be. If your object is wool of the finer qualities, then we would advise the Merino, of which we have given you an engraving of a superior Buck above. Of this breed, Mr. Randall in his sheep husbandry says:

"The Merino, though properly a native of a warm climate, becomes readily inured to the greatest extremes of cold, flourishing as far north as Sweden, without degenerating in fleece or form. It is a patient, docile animal, bearing much confinement without injury to health, and possesses none of that peculiar "voraciousness of appetite," ascribed to it by English writers. Accurately conducted experiments have shown that it consumes a little over two pounds of hay per diem, in winter; the Leicester consumes from three and a half to four; and the common wooled American sheep would not probably fall short of three.—The mutton of the Merino, in spite of the prejudice which exists on the subject, is short grained and of good flavor, when killed at a proper age," and weighs from ten to fourteen pounds to the quarter.

"It is remarkable for its longevity, retaining its teeth and continuing to breed two or three years longer than the

common sheep," and at least half a dozen more than the improved British breeds; "but it should be remarked in connection with this fact, that it is correspondingly slow in arriving at maturity. It does not attain its full growth before three years old, and the ewes in the best managed flocks are rarely permitted to breed before they reach that age."

The Merino is a far better breeder than any other fine-wooled sheep, and experience goes to show that its lambs, when newly dropped, are hardier than the Bakewell, and equally so with the high bred South Down. The ewe is not so good a nurse, however, as the latter, and will not generally do full justice to more than one lamb. Eighty or ninety per cent. is about the ordinary number of lambs reared, though it often reaches one hundred per cent. in carefully managed or small flocks."

On the other hand if your object is principally mutton, with a somewhat coarse, but longer wool, then you should have some of the improved long wool breeds, such as South Downs, Cotsulolor, Leicester, or Bakewells. We see in a report of the Newberry Agricultural Society, which is published in this number, that the premium on Bakewell's Ram was taken by J. W. Watts, that on Ewes by Robt. Holman, and for the best pair of Lambs, to J. D. Williams.

We have been promised an article on Sheep raising in South Carolina by the former gentleman, which we look for with some anxiety.

There are several other gentlemen in our State that have paid some attention to the improvement of sheep, Col. Summers, Gen. Hampton and others besides those above named. The last named gentleman has probably the largest flock in the State, but as he is not a subscriber to the Farmer and Planter, we have

never asked him to favor us with an account of them. Perhaps some of our subscribers near him can give us some information as to breed, management, &c.

But before you go into sheep raising, we would advise you to get up petitions and circulate them throughout your district, in favor of such a law, or a law making the owner of sheep killing dogs responsible for damages. If you can convince our candidates for the legislature that a majority of the "dear people" are in favor of such a law, they will all make speeches in favor of it and they will vote for it—not without however.

We have made the following selection from the Southern Cultivator on sheep raising in the South, which will be found interesting to Pickens and others desiring to go into the business.

SHEEP RAISING IN THE SOUTH.—A subscriber, writing from Walton county Georgia, after condemning in terms of just indignation the negligence of our legislators in not passing some stringent acts against the keeping of sheep-killing dogs, gives the following as his experience with a small flock of common sheep. What the profits would be with a flock of French Merinos, shearing each ten or fifteen pounds of wool, under careful treatment, we leave our friend, the "Young Farmer," to conjecture. A few enterprising and improving farmers among us are turning their attention to this fine race of wool-bearing animals; and to those who desire information in regard to them, the communication of F. M. R., and the engraving of the Merino Ram "Louis Napoleon," (which we publish this month,) cannot fail to be interesting.

MESSRS. EDITORS:—I want you to publish this article in your *Cultivator*, for the benefit of those who raise only cotton to the neglect of every thing else. I am going to talk a short time about sheep.—Now, I don't want you to mistake me; I am not going into deep research in relation to their phrenological, pathological, nor physiological condition—but simply a plain farmer's talk about their value.

* * * * *

The raising of sheep is as profitable as anything that a farmer can invest a part of his capital in. I say a part, because it will not do for all to go into it extensively—if so, where will be the farmer? The best way to prove what I have asserted is to do it by an example—as I was taught arithmetic.

Two years ago this last winter, I purchased 25 head of Sheep, for \$1.50 per head, which made them cost \$37.50;

they consumed two stacks of oats (2000 lbs.) then selling at 40 cents per cwt., which was equal to \$8.00; this then added to the cost of the sheep makes them cost me, the Spring following \$45.50; this is now the capital expended. In the Spring I had 10 lambs, worth 50 cts. each \$5.00; I sheared from these sheep 75 lbs. of wool, which was sold at 30 cts. per lb. \$22.50; I sheared again in the fall of the year, lambs and old ones, and got 105 lbs. of wool, which was sold at 30 cts.—making \$31.50. These items added together will give the profits for one year, \$58.00—an interest greater than the capital.—Here rests for the present the first year. The second year I had 35 head in the flock, an increase you know, of 10 lambs. The second winter I fed them on cotton seed and oats; they ate 100 bushels of seed worth \$10, and two stacks of oats, worth at that time, \$20; this made their food cost \$30.00; this, now added to the original cost of the sheep, makes them cost 67.50. Well, I had 35 to shear in the spring, which gave me 105 lbs. of wool, sold at 30 cts. which equals 31.50. I had the second year, 15 lambs, worth 50 cts. per head—7.50. In the fall, I sheared them again, and got from lambs and all, (50 in number) 150 lbs. of wool, which was sold at 30 cts., making \$45.—Add these items together and you have the profits for the second year—\$84.00.—Here now is \$84 interest on \$67.50 for one year. But it is more than this, because when the sheep are once paid for, they do not have to be paid for every year. There are several little items that ought to be mentioned in connection with this. The salt and the lime that the sheep eat during the time amounting to near \$7.00, which has to be added to the expense of feeding.

Now, Messrs. Editors, certainly no one can doubt the profits arising from sheep. I have tried to be particular in my estimates. In conclusion I would say that sheep should be salted often—twice a week at least, and after every rain.

Report on Corn and Fodder.

The following Report on Corn and Fodder from the Southern Planter, was marked for insertion in our August number, but mislaid. It goes strongly to sustain our experience in fodder pulling, i. e. that the corn is always injured in a greater or less degree, (according to the degree of maturity) by taking off the blades. If our farmers would raise grass or Corn for fodder only, much of this disagreeable business of fodder gathering might be avoided, besides more and better corn made.—Eps. F. & P.

Report of W. R. Bland on Corn and Fodder.

On the 16th day of September, 1851, I selected eight contiguous rows of corn, of the same length, and as far as I could see, exactly alike in all respects. Two rows were cut off at the ground and stacked—two others left standing with all the fodder on the stalk till the usual time of gathering corn, and the remaining rows were pulled, and the tops cut in the usual way.

No. 1 made 4 bushels of ears, weighed on the 24th November, 55 pounds to the bushel of shelled corn.

No. 2 made 4½ bushels of ears, weighed on the 24th November, 56 pounds to the bushel of shelled corn.

No. 3 made 6 bushels of ears, weighed on the 24th November, 54 pounds to the bushel of shelled corn.

No. 4 made 4½ bushels and a fraction of ears, weighed on the 24th November, 57 pounds to the bushel of shelled corn.

It is proper to state that about one-fourth of that lot cut off at the ground, was afterwards nearly destroyed by cattle, and is not embraced in the above statement, giving credit to No. 1 for the accidental loss, it should be 5½ bushels of ears.

No. 2 gave 38 pounds of fodder; No. 4 gave 30½ pounds. The fodder from No. 1 was much better on the inside of the shocks than I expected, from the dryness of the season. It was in fact pretty fair. The fodder from No. 4 was, of course, dry and worthless.

On the 10th February, 1852, the corn from each weighed as follows:

No. 1, 58 pounds to the bushel.

No. 2, 57 " " " "

No. 3, 58 " " " "

No. 4, 56 " " " "

Reducing it to money, the lots will stand thus, viz :

No. 1, 5½ bushels of ears, at 40 cts., \$2 13

No. 2, 4½ bush. at 40 cts., \$1 80;

38 pounds of fodder, 38 cts., 2 18

No. 3, 6 bushels at 40 cts., 2 40

No. 4, 4½ bush, at 40 cts., \$1 80; 30½

pounds of fodder, 30½ cts., 2 10½

No. 1, 2½ bushels shelled corn, at 58 pounds, make 154 pounds.

No. 2, 2½ bushels shelled corn, at 57 pounds, made 128 pounds.

No. 3, 3 bushels shelled corn, at 58 pounds, made 174 pounds.

No. 4, 2½ bushels shelled corn, at 56 pounds, made 126 pounds.

The above experiment shows some strange results. I do not, and cannot believe, that corn can gain in weight by

drying, and yet the foregoing would tend to show that it did. I can only say that the weighing was carefully done each time, and the result noted immediately, and I suppose the increase is due to the fact that no steel-yards, intended for weighing heavy weights, will give the true weight of small articles.

Respectfully submitted.



Horticultural Department.

Pears on the Quince Stock.

In a late discussion on fruits, which took place at the agricultural meeting at the State House in Boston, Col. Wilder made some interesting remarks on this subject, which we reprint:

"Much attention has been given of late years to the cultivation of the pear on the quince stock, and in relation to which I have been requested to give the results of my experience. As a general rule, no tree will succeed for any great length of time where it is grafted on any other than its own species. There are, however, exceptions to this rule, and among them some varieties of the pear, which grow vigorously, bear abundantly, and which seem to be even better adapted to the quince than to their own stock.

"An impression has extensively prevailed unfavorable to the cultivation of the pear on the quince. This has arisen principally from an improper selection of kinds, or from injudicious cultivation. There are, however, three considerations which are absolutely necessary to success, viz: a deep, rich soil,—the planting of the quince stock entirely below the surface of the ground,—and a systematic course of pruning, as the tree progresses in growth.

"Objections to this species of cultivation have been made from the belief that the quince was a short-lived tree, and that the crop must necessarily be small from what are termed dwarf trees.—Such, however, has not been my experience. On the contrary, I have pear trees on the quince root which are twenty-five years old, and which produce annually a barrel or more of fruit each, and for aught that I can see, they are destined to sur-

vive as long as any that I possess on the pear root. These may, and probably have in some instances, thrown out roots from the pearstock, but whether this be so or not, instances are not rare where such trees have attained in France the age of more than one hundred years, and we know of a quince tree in Massachusetts which is forty years old, and which has produced ten bushels of fruit in a season.

"The pear, when grown on the quince, should always be trained in the pyramidal form. These may be planted in much closer order than when grown as standards. We have known to succeed well when grown at the distance of six feet in the rows. In this way Mr. Rivers, the great English cultivator, planted 2500 *Louise Bonne de Jersey*s and 1500 *Glout Morceau*s for the London market.—We consider 12 feet apart, each way, a liberal distance. This would give 302 trees to the acre, and we are clearly of the opinion that soil and selection of varieties being right, no crop whatever would be more profitable. Such a plantation, with proper care, would yield, in the fifth year, from 75 to 100 bushels of fine fruit. As to profit, this will not appear as an exaggeration when it is known that *Glout Morceau* pears, a variety which succeeds admirably on the quince, have sold during the winter readily at one to two dollars a dozen in our market.

"We name as varieties which succeed well on the quince, the following, and to which might be added many more: *Louise Bonne de Jersey*, *Vicar of Winkfield*, *Duchess d' Angouleme*, *Glout Morceau*, *Passe Colmar*, *Urbaniste*, *Belle et Bonne*, *Beurre d' Anjou*, *Beurre*, *Diel*, *Easter Beurre*, *Beurre d' Amaulis*."

We commend the above article to the attention of those who are seeking reliable information on this subject. Col. Wilder's statements are entitled to the fullest confidence. We must add, however, that from what we have seen and learned last season, both at home and abroad, we have concluded to abandon the *Urbaniste* on the quince; we feel satisfied that it will not be durable. We would add to the above list, *Belle Lucrative*, *Doyenne Boussac*, and *White Doyenne*. These succeed well, and are indispensable, in our opinion, even in small collections.—*Genesee Farmer*.

Protection of Trees against Rabbits.

The destruction of young trees, (particularly apple,) by hares and rabbits, is

frequently a great loss both to farmers and nurserymen. The editor of the *Horticulturist* gives the following method as employed by M. le Baron Vander Straeten de Waillet for several years with entire success. He infuses about two lbs. of quick lime in nearly three gallons of water, to which he adds several handfuls of soot, stirring it until the two substances are thoroughly mixed. He then makes a paste of a handful of rye flour, and binds it in the form of a brush, upon a stick, and with this mixture covers the branches and the trunk of his trees, from the ground to the height of at least a yard. This mixture, applied quite warm, possesses the additional advantage of keeping the bark in a state of preservation and health, and preventing the growth of moss, of which the effect is always injurious. The best time to make the application is during the early part of November, during a dry season, which will allow the mixture to adhere to the bark while drying; should there be rain immediately after the operation, and the trees be washed, the application would have to be repeated. Twelve pints of the mixture will be sufficient to protect 300 to 400 dwarf trees, and may be obtained for a few cents worth of lime and one day's labor for an active man. This method is equally infallible for preserving the grafts of all nursery trees.—*Ex.*

A cultivator of fruit, whose ample orchard is referred to in the *New England Farmer*, keeps a circle of several feet about every tree clear of grass, and enriches with chip manure, bones, ashes, and other fertilizing substances. He has large crops of excellent fruit, which bring more money than any of the neighboring farmers obtain from all their crops.

Coal cinders, iron filings, charcoal dust, &c., &c., such as is usually found about a black smith shop, are excellent for pear trees. Apply and turn under the surface about three inches deep.—*Ex.*

The Sun Flower.

The *Rural New Yorker* has some remarks on the culture of the Sunflower, which may be interesting to the agriculturist. He says:

"I have raised and tested it, and think no farmer who has much land should be without it for feeding various animals, and for the oil it produces. It has yielded with me, from 90 to 100 bushels per acre, manured the same as for corn. I plant in drills, between three and four feet apart, and scatter the seed about six

inches deep in the rows—using from four to five quarts per acre.

When ripe, as the large heads begin to shell out, I cut it up and leave it scattered in rows to dry, and when thoroughly cured, draw it into my barn, handling carefully and placing on an airy scaffold, when wanted the seed will nearly all shell out by throwing down, and needs but little pounding. Clean in a common sifting mill.

One hundred pounds of seed yield forty pounds of oil; one bushel will make a gallon of oil. I had part of my seed made into oil at a common mill, and used it for burning in lamps, and tested it well for painting. Our house has been painted a long time, and it wears fully equal to those where linseed oil was used, and the walls are left more glossy as though a little varnish had been used.

The oil cake is nearly equal to any other—and there is nothing better to feed hens on in winter than sunflower seed; they did not know what it was at first, but by mixing it with oats, they gradually grew fond of it, and produced eggs more abundantly than usual on other food. The seed is well known to be good for horses, and is well worth 50 cents a bushel to the farmer. I hope they will test this matter for themselves, and I am sure they will find it profitable to make their own oil, &c., as I have done."

The Propagation and Culture of Fruit Trees, &c.

BY P. BARRY.

The propagation and culture of fruit trees in the nursery, and the production of fruits in the garden and orchard, at the present time occupy the attention of a very large number of persons in the United States, and constitute a very important item in the general industry. To the majority of those embarking in it the business is entirely new, and they have everything respecting it to learn. The more experienced, even, have much more to learn than they imagine. It is by no means a simple thing—the work or study of a few weeks or months—that will make a nurseryman, or a fruit grower, even. We not unfrequently hear people say they would like to send their sons to a nursery for a few months, to learn the business; and a man embarking largely in fruit culture, will sit down and address a dozen inquiries to a horticultural journal, expecting replies that will at once enable him to prosecute the matter successfully. Now, we wish to draw attention to these errors; the sooner peo-

ple are undeceived in these matters, the better it will be for themselves and the community. We are apt people, to be sure; still we have to learn our alphabet before we read, and a certain length of time is necessary to learn the simplest mechanical art. Agriculture and horticulture present a much wider field for study, and a much more embarrassing one, than any mechanical art; and yet, strange enough, few people are willing to believe that they can not at once leave the work-shop or the counting room, and become successful farmers, gardeners, or nurserymen. How many are every year awakened from this delusion, by dear bought experience. A few succeed; they are those who appreciate their want of knowledge, and go to work as zealous and earnest students.—like a man who finds himself in a foreign country, ignorant of the language spoken, and conscious that he can not prosecute his travels with either pleasure or profit, until he has learned it. Such is exactly the position of the man who becomes a tiller of the soil, a grower of wheat or corn, a breeder of stock, a propagator of trees or plants, without previous study or preparation. Nature speaks to him in an unknown tongue; he is continually mistaking one sound for another; blunder after blunder confuse him; and he soon finds he must either leave her and return home to his old pursuit, or at once bend himself down, with dictionary, grammar, and "first lessons," to a study of her language.

"Oh, you are exaggerating!" says a friend. "What mystery is there in farming? Who is so stupid as not to know how to buy himself a farm; a few horses, cows, and implements; plow the land, scatter the seed, and harvest the crops? What simple operations!" Pardon us, dear friend, for suggesting that you ought to have some knowledge of the qualities of soils; or you may buy just such land as some one may be glad to get rid of; but will not suit your purposes. You ought to know something of animals; or you will certainly stock your farm with a collection in which every fault known will be represented. You ought to know something of the feeding of farm stock, and their diseases; or half your animals will die before you are aware of their sickness. You ought to know something of the comparative value of the different varieties of grains and vegetables, that you may plant that which will best suit your market and your soils. There

are a thousand other matters you ought to know of, and that you must learn by experience before farming will be profitable. So in gardening;—you will find it unpleasant not to know either how or what to plant. And here the operations are more difficult, because much more numerous, and more minute, and less generally understood. The propagation and culture of trees and plants is a great study—not to be learned in a few months. After some sixteen years' of daily and hourly experience, close study and observation, with opportunities as good as most people have enjoyed, we feel but like an apprentice who had served his first year, and began to know how to handle his tools, and understand their names and uses.

The growing season is the time to acquire information; everything is active and yielding to surrounding influences. The effects of soils and manures, dryness and moisture; the attacks of insects and diseases, the habits of growth and bearing of trees; the ripening of fruits; the advantages of different modes of propagation, pruning and training; and all the various treatment that trees and plants undergo during summer, should be closely watched, and every result be seized upon and turned to account, for the guidance of the future. This applies to every department of cultivation, whether it be the farm, the orchard, the fruit garden, or the flower garden. Our lady friends who are embarking in the culture of flowers for their recreation and amusement, and for the embellishment of their homes, must not rest satisfied with admiration of their beautiful colors or foliage; they must study their habits, observe what soil and treatment suits them best, learn their geography, history, origin, &c., and they will greatly multiply the pleasures and benefits of floriculture.

We hear too many complaints of "barbarous Greek and Latin names;" people want everything easy and ready. A little study and practice will make the hardest names easy and familiar. The world is wide, nations are various, and speak different languages; the names of people of one country are strange and hard to those of another; but we cannot translate them—we must take them as they are. And so with the names of plants, or fruits, or flowers, named by foreigners,—we must learn to pronounce them as we learn other things more difficult.—*Genesee Farmer.*